



ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OW-2022-0365 and EPA-HQ-OW-2022-0366; FRL 8310-01-OW]

Draft Recommended Aquatic Life Ambient Water Quality Criteria for Perfluorooctanoic acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of availability.

SUMMARY: As part of the Environmental Protection Agency’s (EPA) commitment to safeguard the environment from per- and polyfluoroalkyl substances (PFAS), the agency is announcing the availability of Clean Water Act (CWA) national “Draft Recommended Aquatic Life Ambient Water Quality Criteria for Perfluorooctanoic acid (PFOA)” and “Draft Recommended Aquatic Life Ambient Water Quality Criteria for Perfluorooctane Sulfonic Acid (PFOS)” for a 30-day public comment period. These draft criteria are a priority action identified in EPA’s PFAS Strategic Roadmap and reflect the latest scientific knowledge regarding the effects of PFOA and PFOS on freshwater organisms. These draft criteria have undergone external peer review, and EPA has revised the documents accordingly. When these draft CWA recommended criteria are finalized, they will provide information that states and tribes may consider when adopting water quality standards.

DATES: Comments must be received on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: *Docket:* EPA has established dockets for these actions under Docket ID No. EPA-HQ-OW-2022-0365 for the “Draft Recommended Aquatic Life Ambient Water Quality Criteria for Perfluorooctanoic Acid (PFOA)” and Docket ID No. EPA-HQ-OW-2022-0366 for the “Draft Recommended Aquatic Life Ambient Water Quality Criteria for Perfluorooctane Sulfonic Acid (PFOS).” You may send comments, identified by the Docket ID No. EPA-HQ-OW-2022-0365 for the draft PFOA criteria or Docket ID No. EPA-HQ-OW-2022-0366 for the

draft PFOS criteria, through the Federal eRulemaking Portal: <https://www.regulations.gov/>.

Follow the online instructions for submitting comments.

Instructions: All submissions received must include the Docket ID No. for this rulemaking.

Comments received may be posted without change to <https://www.regulations.gov/>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the “Public Participation” heading of the

SUPPLEMENTARY INFORMATION section of this document. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room are open to the public by appointment only to reduce the risk of transmitting COVID-19. Our Docket Center staff also continue to provide remote customer service via email, phone, and webform. Hand deliveries and couriers may be received by scheduled appointment only. For further information on EPA Docket Center services and the current status, please visit us online at <https://www.epa.gov/dockets>.

FOR FURTHER INFORMATION CONTACT: James Justice, Health and Ecological Criteria Division, Office of Water (Mail Code 4304T), Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, D.C. 20460; telephone: (202) 566-0275; or e-mail: justice.jamesr@epa.gov.

SUPPLEMENTARY INFORMATION:

I. Public Participation – Written Comments

Submit your comments, identified by Docket ID No. EPA-HQ-OW-2022-0365 for the draft PFOA criteria or Docket ID No. EPA-HQ-OW-2022-0366 for the draft PFOS criteria, at <https://www.regulations.gov>. Once submitted, comments cannot be edited or removed from the docket. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the

official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

II. What are PFOA and PFOS, and How Do They Affect Aquatic Life?

PFOA and PFOS are two of the most widely used and studied chemicals in the PFAS group. PFAS have been manufactured and used by a broad range of industries since the 1940s. PFOA and PFOS are not naturally occurring and have no biologically important functions or beneficial properties to aquatic life. The mechanisms underpinning the toxicity of PFOA and PFOS to aquatic organisms, like other PFAS, is an active and on-going area of research. The draft recommended criteria are based on observed effects of PFOA and PFOS to the survival, growth, and reproduction of aquatic organisms. Based on the available ecotoxicity data, aquatic plants are generally less sensitive to PFOA and PFOS than fish and other aquatic life.

III. What are EPA's Recommended Criteria for PFOA and PFOS in Freshwater for the Protection of Aquatic Life?

EPA's draft recommended aquatic life ambient water quality criteria documents provide a critical review of PFOA and PFOS toxicity data, quantify the toxicity of these chemicals to aquatic life, and provide separate PFOA and PFOS criteria to protect aquatic life from the toxic effects of these chemicals. These draft criteria were derived to reflect the latest scientific knowledge using the available data on the toxicological effects of PFOA and PFOS on aquatic life. EPA developed these draft aquatic life ambient water quality criteria following the general approach outlined in EPA's "*Guidelines for Deriving Numerical Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*."

EPA developed the draft PFOA and PFOS criteria to be protective of most aquatic organisms in the community (i.e., approximately 95 percent of tested aquatic organisms

representing the aquatic community) and to be protective of aquatic life designated uses established for freshwaters. The draft criteria documents both contain acute and chronic criteria for freshwaters (see Table 1). The draft criteria documents also contain chronic criteria expressed as tissue-based concentrations to protect aquatic life from PFOA and PFOS bioaccumulation (see Table 1 below). The chronic freshwater and chronic tissue criteria for both of these chemicals are intended to be independently applicable and no one criterion takes primacy.

Data limitations did not allow for derivation of PFOA or PFOS national recommended water quality criteria in estuarine/marine waters. However, EPA derived acute estuarine/marine benchmarks through application of a New Approach Method (NAM), using available toxicity data supplemented with modeled estimates of acute toxicity. The acute estuarine/marine benchmarks for PFOA and PFOS are recommendations for states and tribes to consider as protective values in their water quality protection programs.

EPA's draft recommended criteria are the maximum concentrations of PFOA and PFOS (individually, not in mixture), with associated frequency and duration specifications, that will support protection of aquatic life from acute and chronic effects in freshwaters (see Table 1).

Table 1. Draft Recommended Freshwater Aquatic Life Water Quality Criteria for PFOA and PFOS

Criteria Component	Acute Water Column (CMC)¹	Chronic Water Column (CCC)²	Invertebrate Whole-Body	Fish Whole-Body	Fish Muscle
PFOA Magnitude	49 mg/L	0.094 mg/L	1.11 mg/kg ww ³	6.10 mg/kg ww	0.125 mg/kg ww
PFOS Magnitude	3.0 mg/L	0.0084 mg/L	0.937 mg/kg ww	6.75 mg/kg ww	2.91 mg/kg ww
Duration	1-hour average	4-day average	Instantaneous ⁴		
Frequency	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in three years, on average	Not to be exceeded more than once in ten years, on average		

¹ Criterion Maximum Concentration.

² Criterion Continuous Concentration.

³ Wet Weight.

⁴ Tissue data provide instantaneous point measurements that reflect integrative accumulation of PFOA or PFOS over time and space in aquatic life population(s) at a given site.

IV. What are CWA National Recommended Ambient Water Quality Criteria Developed by EPA?

Section 304(a)(1) of the CWA directs EPA to develop and publish and, from time to time, revise criteria for water quality accurately reflecting the latest scientific knowledge. Water quality criteria developed under CWA Section 304(a) are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. CWA Section 304(a) recommended criteria do not reflect consideration of economic impacts or the technological feasibility of meeting pollutant concentrations in ambient water.

Under the CWA and its implementing regulations, states and authorized tribes are to adopt water quality criteria to protect designated uses (e.g., aquatic life, recreational use). CWA Section 304(a) recommended criteria provide guidance to states and authorized tribes in adopting water quality standards that ultimately provide a basis for controlling discharges of pollutants. Standards consist of designated uses, water quality criteria to protect those uses, a policy for antidegradation, and may include general policies for application and implementation. EPA CWA Section 304(a) water quality criteria recommendations are not regulations and do not constitute legally binding requirements. States and authorized tribes may adopt other scientifically defensible water quality criteria that differ from these recommendations. CWA Section 303(c)(1) requires states and authorized tribes to review and modify, if appropriate, their water quality standards at least once every three years. Consistent with EPA regulations 40 CFR 131.11, protective criteria must be based on a sound scientific rationale and contain sufficient parameters or constituents to protect the designated uses. Criteria may be expressed in either narrative or numeric form. When states and authorized tribes adopt numeric water quality criteria, those criteria should be based on (1) recommended CWA Section 304(a) criteria; (2) CWA Section 304(a) criteria modified to reflect site-specific conditions; or (3) other scientifically defensible methods. Alternatively, states and authorized tribes may adopt narrative

criteria or criteria based upon biomonitoring methods where numeric criteria cannot be established or to supplement numeric criteria.

Radhika Fox,

Assistant Administrator.

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